TEJUS CONSULTANTS

TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	M sand	**Proposed Use**	PCC
Location/Source	Noor Nagar West Side	**Date of Sampling**	07-07-2021
Period of Soaking	24 hours	**Date of Testing**	08-07-2021

Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.		652	638	647	
B	Weight of oven - dry sample gm.		643	630	639	
C	Weight of Pycnometer Filled with water gm		1275	1275	1275	
D	Weight of Pycnometer + sample + water gm		1685	1676	1681	
E	Bulk specific gravity	B / (C + A - D)	2.657	2.658	2.651	2.656
G	Absorption (%)	(A - B) *100 / B	1.400	1.270	1.252	1.307

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4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

Authorised Signatory

TEJUS CONSULTANTS
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TEJUS

Test Report on Cement

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri.A G. Narayana Swamy.
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	08-07-2021
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	104 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	468 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

Executive Engineer Project Division No. 92 BBMP, Bangalore

Asst.

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Consultants	Tejus Consultants, Bangalore
Contractor	Sri.A G. Narayana Swamy.

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**M sand**	**Proposed Use**	PCC
Sample Location	Noor Nagar West Side	**Date of Sampling**	08-07-2021
		Date of Testing	08-07-2021

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	222	222	7.40	92.60	90 - 100
2.36 mm	318	540	18.00	82.00	75 - 100
1.18 mm	420	960	32.00	68.00	55 - 90
0.600 mm	488	1448	48.27	51.73	35 -59
0.300 mm	748	2196	73.20	26.80	8-30
0.150 mm	620	2816	93.87	6.13	0 - 10
Pan	184	3000			-

Remarks : Satisfactory / Not Satisfactory

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Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	09-07-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 7

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Rajanna House Road from Thirumenahalli Road to Agrahara Layout Main Road	**Date of Sampling:**	08-07-2021
		Date of testing:	09-07-2021
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	378	378	3.78	96.22	95-100
22.4	2415	2793	27.93	72.07	60-80
11.2	2480	5273	52.73	47.27	40-60
4.75	1488.0	6761	67.61	32.39	25-40
2.36	795.0	7556	75.56	24.44	15-30
0.6	830.0	8386	83.86	16.14	8.0-22.0
0.075	995.0	9381	93.81	6.19	0-8
Pan	619.0	10000			
Total	10000.0				

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Consultant's Representative

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	10-07-2021
Type of Mix	:	GSB
Sample I/D	:	GSB3

Sample Location:	Agrahara Layout Main Road	**Date of Sampling:**	09-07-2021	
		Date of testing:	10-07-2021	
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2210	2210	22.10	77.90	70-100
9.5	2448	4658	46.58	53.42	50-80
4.75	888	5546	55.46	44.54	40-65
2.36	1208	6754	67.54	32.46	30-50
0.425	1966	8720	87.20	12.80	10-15
0.075	833	9553	95.53	4.47	<5
Pan	447.0				
Total	10000.0				

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Authorised Signatory

Asst. Executive Engineer Project Division Yelahanka Zone-2 BBMP, Bangalore

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	M sand	Proposed Use	concrete
Location/Source	At Plant	Date of Sampling	12-07-2021
Period of Soaking	24 hours	Date of Testing	13-07-2021

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	668	645	650	
B	Weight of oven - dry sample gm.	660	638	642	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer+ dry sample + water gm	1695	1680	1684	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.661	2.658	2.664	2.661
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.212	1.097	1.246	1.185

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	At Plant	**Date of Sampling**	12-07-2021
		Date of Testing	13-07-2021

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	265	265	2.65	97.35	95 - 100
10.00 mm	4765	5030	50.30	49.70	25 - 55
4.75 mm	4298	9328	93.28	6.72	0 - 10
Pan	672	10000			

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Consultants	TEJUS CONSULTANTS
Contractor	Sri.A G. Narayana Swamy.
Total Weight:	10000 gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size	Proposed Use	CONCRETE
Sample Location	At Plant	Date of Sampling	12-07-2021
		Date of Testing	13-07-2021

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	525	525	5.25	94.75	90-100
10.0	4562	5087	50.87	49.13	40-85
4.75	4288	9375	93.75	6.25	0-10
Pan	625	10000			

Asst. Executive Engineer
Project Division
Yelahanka Zone - 02
BBMP, Bangalore

Remarks : Satisfactory / Not Satisfactory

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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	Sri.A G. Narayana Swamy.

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))

Date of Testing	13-07-2021		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Field density:	**1**	**2**	**3**
Chainage	**Eshwara Condiments Side Road at Ch:85**	**Eshwara Condiments Side Road at Ch:140**	**Noor Nagar Main Road at Ch:92**
Wt. of wet material from hole (Ww) gms.	5978	5949	5975
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10588	10595	10582
Wt. of sand in hole+ cone (w3) gms.	4412	4405	4418
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3332	3325	3338
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.50
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.83	98.65	98.60
% compaction required	98%	98%	98%

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TEST REPORT

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Consultants	Tejus Consultants, Bangalore
Contractor	Sri.A G. Narayana Swamy.

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**M sand**	**Proposed Use**	concrete
Sample Location	At Plant	**Date of Sampling**	13-07-2021
		Date of Testing	13-07-2021

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	212	212	7.07	92.93	90 - 100
2.36 mm	317	529	17.63	82.37	75 - 100
1.18 mm	445	974	32.47	67.53	55 - 90
0.600 mm	492	1466	48.87	51.13	35 -59
0.300 mm	712	2178	72.60	27.40	8-30
0.150 mm	628	2806	93.53	6.47	0 - 10
Pan	194	3000			-

Remarks : Satisfactory / Not Satisfactory

Assistant Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri.A G. Narayana Swamy.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:15 RHS Noor Nagar 3rd c/s Road (For Sidewall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-07-2021	21-07-2021	7 days	8.162	22500	311	13.82	13.70
2	14-07-2021	21-07-2021	7 days	8.188	22500	309	13.73	
3	14-07-2021	21-07-2021	7 days	8.174	22500	305	13.56	

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Asst. Executive Engineer Project Division No.2 Bangalore

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri.A G. Narayana Swamy.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:15 RHS Noor Nagar 3rd c/s Road (For Sidewall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-07-2021	28-07-2021	14days	8.167	22500	418	18.58	18.52
2	14-07-2021	28-07-2021	14days	8.178	22500	415	18.44	
3	14-07-2021	28-07-2021	14days	8.182	22500	417	18.53	

Asst. Executive Engineer

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Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**14-07-2021**
Sample Location	Agrahara Layout Main Road	**Date of Testing**	**15-07-2021**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	362.00	372.00	342.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	272.00	280.00	259.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	90.00	92.00	83.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.86	24.73	24.27	
5	Average Aggregate impact value	(%)	24.62			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Eshwara Condiments Side Road (Medows Appartment Opp)	**Date of Sampling**	**14-07-2021**
		Date of Testing	**15-07-2021**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	616	84	522	76
16.0	12.5	1130	120	980	115
12.5	10.0	775	56	720	56
10.0	6.3	620	65	566	45
Total		**3141**	**325**	**2788**	**292**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.35
Elongation Index(%):	10.47
Combined FI+EL (%)	20.82

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4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

Consultant's Representative

TEJUS CONSULTANTS
No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O : +91 80 23287532, tejusconsultants@gmail.com

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TEJUS
CONSULTANTS

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	15-07-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 8

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Agrahara Layout Main Road	**Date of Sampling:**	14-07-2021
		Date of testing:	15-07-2021
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	357	357	3.57	96.43	95-100
22.4	2415	2772	27.72	72.28	60-80
11.2	2480	5252	52.52	47.48	40-60
4.75	1488.0	6740	67.40	32.60	25-40
2.36	795.0	7535	75.35	24.65	15-30
0.6	830.0	8365	83.65	16.35	8.0-22.0
0.075	995.0	9360	93.60	6.40	0-8
Pan	640.0	10000			
Total	10000.0				

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore

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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Noor Nagar Main Road	**Date of Sampling**	**16-07-2021**
		Date of Testing	**17-07-2021**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	640	82	524	72
16.0	12.5	1128	122	970	115
12.5	10.0	774	64	725	56
10.0	6.3	612	61	564	45
Total		**3154**	**329**	**2783**	**288**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.43
Elongation Index(%):	10.35
Combined FI+EL (%)	20.78

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Consultant's Representative

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Development works to be undertaken in Ward No.05 of BBMP around Sobi Hosa Layout, Devarajiva area Bellahalli, Begaluru and Lottegollahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	[illegible]
Contractor	M/s. G. Narayana Swamy
Grade of concrete	M30
Size of cube	150x150x150 mm
Reference IS code:	IS:516-1959
Sample	Cubes were received in the laboratory on the dates mentioned below

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				kg	mm²	kN	N/mm²	N/mm²
1	18-05-2021	25-05-2021	7 days	8.135	22500	630	14.00	15.70
2	18-05-2021	25-05-2021	7 days	8.160	22500	650	14.44	
3	18-05-2021	25-05-2021	7 days	8.170	22500	715	15.84	

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Authorised Signatory

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No. 08, 3rd main, 8th Cross, 1st Stage, HMT Colony, Basaveshwaranagar, Bengaluru - 560079. Ph: 080-2321 [illegible]

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TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri.A G. Narayana Swamy.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample	Ch:12 LHS Noor Nagar 5th c/s Road (For Sidewall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	15-07-2021	29-07-2021	14days	8.126	22500	422	18.76	18.93
2	15-07-2021	29-07-2021	14days	8.128	22500	426	18.93	
3	15-07-2021	29-07-2021	14days	8.132	22500	430	19.11	

Asst. Executive Engineer

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Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	17-07-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 9

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Agrahara Layout Main Road	Date of Sampling:	16-07-2021
		Date of testing:	17-07-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	367	367	3.67	96.33	95-100
22.4	2415	2782	27.82	72.18	60-80
11.2	2480	5262	52.62	47.38	40-60
4.75	1488.0	6750	67.50	32.50	25-40
2.36	795.0	7545	75.45	24.55	15-30
0.6	830.0	8375	83.75	16.25	8.0-22.0
0.075	995.0	9370	93.70	6.30	0-8
Pan	630.0	10000			
Total	10000.0				

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Project	Development works to be undertaken [illegible] around solidwaste disposal processing units Kaballi nagatore and kattigenalli , hystarayanapura constituency .
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	17-07-2021
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	**Rajanna House Road at Ch:220**	**Rajanna House Road at Ch:330**
Wt. of wet material from hole (Ww) gms.	5986	5978
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10594
Wt. of sand in hole+ cone (w3) gms.	4405	4406
Wt. of cone gms	1080	1080
Wt. of sand gms.	3325	3326
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.38	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.39	98.41
% compaction required	98%	98%

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